Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Velocity and Acceleration

1.) What is the main difference between speed and velocity?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.) Determine if each of the following represents a value of speed

or a value of velocity:

Jerry drives 40 miles south \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Beth drive 40 miles per hour \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A person walks 4.8 miles per hour \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A person walks north 5.0 miles per hour \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3.) A car accelerates from 0 to 60 miles per hour in 5 seconds.

Calculate the car’s acceleration. Show your work! (hint…how many seconds are in an hour?)

4.) A person starts running from 2m/s to 6 m/s in 2 seconds. Calculate the person’s acceleration. Show your work!

5.) A plane stops from 250 mph in 25 seconds. Calculate the planes acceleration. Show your work!

6.) A car travels 12 m in 2 seconds. After 10 seconds of acceleration it travels 80 m in 4 seconds. Find its acceleration. Show your work!

7.) Determine if each of the following is accelerating. If it is,

explain why it’s considered to be accelerating.

|  |  |  |
| --- | --- | --- |
|  | Accelerating, Y or N | Explanation |
| An object moving at a constant speed in a circle |  |  |
| Going 20 m/s in a straight line |  |  |
| Slowing down |  |  |
| A car traveling at a constant speed around a corner |  |  |

8.) If an object accelerates 5 m/s2, and starts at rest, how fast is it

traveling after 1 second?

How fast is it traveling after 5 seconds?

9.) The following boxes represent the position of three objects over the same amount of time. Match the boxes with the descriptions below.

1

2

3

|  |
| --- |
| \* \* \* \* \* \* \* \* \* \* \* \* \* |

|  |
| --- |
| \* \* \* \* \* \* \* \* \* \* \*\*\*\*\*\* |

|  |
| --- |
| \* \* \* \* \* \* \* \* \* \* \* \* |

\_\_\_\_ Has constant speed \_\_\_\_ Has positive acceleration

\_\_\_\_ Has negative acceleration \_\_\_\_ Starts at rest

\_\_\_\_ Where the initial and final velocity are the same

10.) Answer the following questions based on the graph below.

Which object starts farther away? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Which line reaches 24 m away first? \_\_\_\_\_\_\_\_\_\_\_\_\_

Where is Object A after 3 seconds? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Where is Object B after 3 seconds? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Which object is moving faster? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How did your know? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

